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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/854,321

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06/01/2005

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EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/854,321	<b>Applicant(s)</b> GROSDIDIER ET AL.	
	<b>Examiner</b> Anh-Vu H. Ly	<b>Art Unit</b> 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.  
 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-13,15-17,19 and 20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1,4-13,15-17,19 and 20 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>March 30, 2005</u> . | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

1. This communication is in response to applicant's amendment filed March 30, 2005.

Claims 1, 4-13, 15-17, and 19-20 are pending.

### ***Claim Objections***

2. Claims 1, 15, 19, and 20 are objected to because of the following informalities:

With respect to claim 1, in line 5, a period needs to be inserted to terminate the claim.

With respect to claim 15, in line 1, currently read as "The method of claim 14"; however, claim 14 is already cancelled by the amendment.

With respect to claims 19 and 20, in line 1, currently read as "The method of claim 18"; however, claim 18 is already cancelled by the amendment.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 4-6, 10-12, 15-16, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Santos et al (US Patent No. 6,684,247 B1). Hereinafter, referred to as Santos.

With respect to claims 1, 10, and 16, Santos discloses (col. 4, lines 37-41) that the database 280 includes data collected (measured) from network 100 (a communication network), such as time delay (herein, the time delay can be either one way delay or round trip delay), bandwidth, throughput, packet loss, or any other metric associated with one or more links 120a – 120m (herein, round trip time or delay includes more than one link), and other data internally generated by monitoring program 260 (measuring packet round trip times within a communication network). Santos discloses in Fig. 6, a plot showing the average delay vs. time (organizing the packet round trip time measurements as an invariant distribution and applying an analytical tool to the invariant distribution to derive a plot exhibiting periodic peaks). As shown in Fig. 6, the plot includes the measured data metric, estimated metric, and the predetermined threshold. Further, as indicated by the plot, higher peaks are associated with higher delays (congestion) (extracting information from the periodic peaks regarding congestion conditions within the network).

With respect to claims 4, 15, and 19, Santos discloses (col. 5, line 67 – col. 6, line 4) that the monitoring program 260 determines a plurality of Fourier frequencies, for estimating  $W_k$ ,

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where  $W_k = 2\pi k/n$ , and  $k=0, 1, \dots [n/2]$  (analytical tool is selected from list comprising a Fourier transform and a wavelet transform).

With respect to claim 5, Santos discloses in Fig. 6 that periodic peaks are displayed as a function of time (period information) (determining period information from the period peaks).

With respect to claims 6, 11, and 12, Santos discloses in Fig. 6, a plot showing congestion indicators (high peaks) vs. time. Herein, congestions are related to the high bandwidth usage (determining bandwidth information from the periodic peaks).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-9, 13, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santos et al (US Patent No. 6,684,247 B1) in view of Wilson (US Pub 2001/0032269 A1).

With respect to claims 7-9, 13, 17, and 20, Santos discloses in Fig. 6, a plot showing delay vs. time. Santos does not disclose using the bandwidth information to set a control bandwidth output of a network node; adjusting inter-packet transmission times at the network node; and adjusting control bandwidth output in response to changing network congestion

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conditions. Wilson discloses on page 5, 46<sup>th</sup> paragraph, that the TCP host keeps track of the sent data packets and waits for a round trip time to be completed for each of the data packets. The sending TCP host then either increases or decreases the data transmission rate upon receiving ACKs (using the bandwidth information to set a control bandwidth output of a network node). Further, Wilson discloses on page 5, 47<sup>th</sup> paragraph, that after an acknowledgment is received and the data transfer rate is adjusted (control bandwidth output is set by adjusting inter-packet transmission times at the network node and/or the adjusting control bandwidth output in response to network congestion conditions). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features such as setting and adjusting control bandwidth output and adjusting transmission times in Santos' system, as suggested by Wilson, to regulate network traffic based on the measured network conditions and assure quality of service.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 4-13, 15-17, and 19-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wen et al (US Pub 2003/0193893 A1) discloses method for accelerating TCP flows in communication networks with dynamic control.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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